



# **Life Insurance AI/ML Survey Results**

**Commissioner Kevin Gaffney, VT**

**Fall 2023 National Meeting**

**Orlando, Florida**

**December 1, 2023**

**NAIC** NATIONAL ASSOCIATION OF  
INSURANCE COMMISSIONERS

# Charge of Big Data and Artificial Intelligence (H) Working Group

*Research the use of big data and artificial intelligence (AI) in the business of insurance, and evaluate existing regulatory frameworks for overseeing and monitoring their use. Present findings and recommended next steps to the Innovation and Technology (EX) Task Force, which may include model governance for the use of big data and AI for the insurance industry.*

P&C Personal Auto Insurance  
AI/ML Surveys  
Report Issued Dec. 2022

P&C Home Insurance  
AI/ML Surveys  
Report Issued Aug. 2023

**Life Insurance  
AI/ML Surveys  
Report Issued Dec. 2023**

## Goals

1. To gain a better understanding of the insurance industry's use and governance of AI.
2. To seek information that could aid in the development of guidance or potential regulatory framework to support the insurance industry's use of AI.
3. To inform regulators as to the current and planned business practices of companies.

# Scope

## Conducted under the market examination authorities of 14 states:

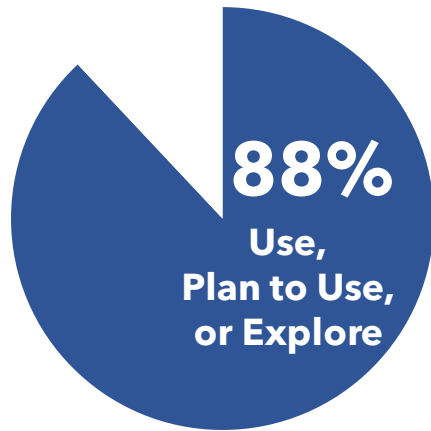
CO	Jason Lapham	ND	Ross Hartley
CT	Paul Lombardo	OR	Brian Fjeldheim
IL	Erica Weyhenmeyer	PA	Shannen Logue
IA	Jared Kirby	RI	Matt Gendron
LA	Nichole Torblaa	VT	Commissioner Kevin Gaffney
MN	Fred Andersen	VA	Eric Lowe
NE	Director Eric Dunning	WI	Lauren Van Buren

## Criteria:

- ✓ Life insurance products only, not annuities
- and-
- ✓ At least \$250 M national life insurance premium in 2021
- and-
- ✓ Covered at least 10,000 lives by issuing term insurance in 2021
- or-
- ✓ InsurTech company

# Life Insurers Report Significantly Less Usage of AI/ML Than Auto and Home Insurers

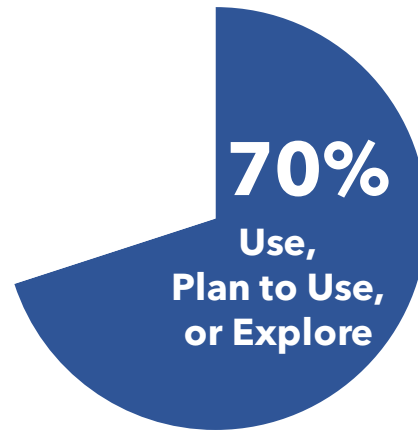
## AUTO INSURER AI/ML SURVEYS



193 Auto Insurers responded

AI/ML algorithms exclude Generalized Linear Models

## HOME INSURER AI/ML SURVEYS



194 Home Insurers responded

AI/ML algorithms exclude Generalized Linear Models

## LIFE INSURER AI/ML SURVEYS



**161 Life Insurers responded**

**AI/ML algorithms *include* Generalized Linear Models**

# Limited Justification, Resource Constraints, and Legacy Systems Limit AI/ML Adoption

## AUTO INSURER AI/ML SURVEYS

Of the 12% responding that they do not currently use, plan to use or explore using AI/ML...

Why not?

"No compelling business reason"

"Lack of resources & expertise"

"Reliance on legacy systems/IT"

## HOME INSURER AI/ML SURVEYS

Of the 30% responding that they do not currently use, plan to use or explore using AI/ML...

Why not?

"No compelling business reason"

"Lack of reliable data/security risk"

"Waiting for regulatory guidance"

"Reliance on legacy systems/IT"

## LIFE INSURER AI/ML SURVEYS

**Of the 42% responding that they do not currently use, plan to use or explore using AI/ML...**

**Why not?**

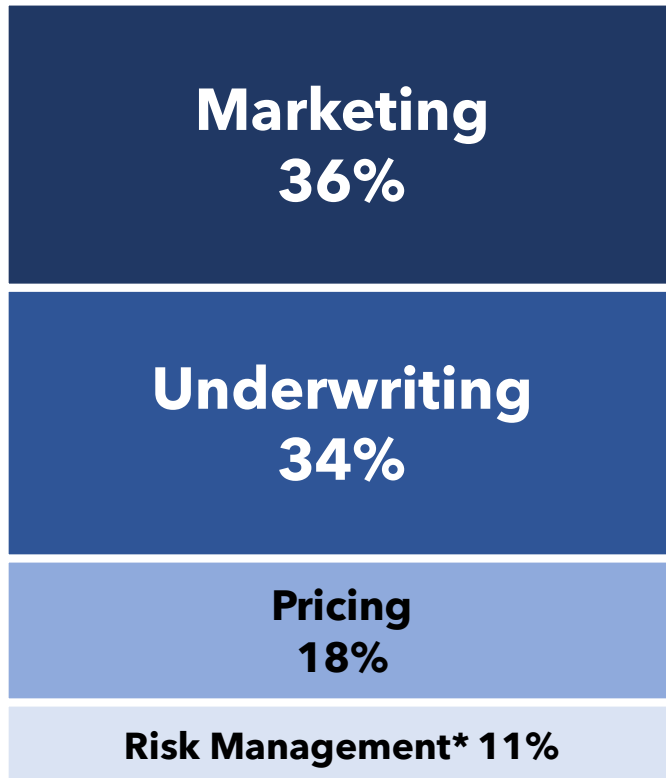
**"No compelling business reason"**

**"Lack of resources & expertise"**

**"Reliance on legacy systems/IT"**

# AI/ML Models in Life Insurance Are Mainly Used for Marketing and Underwriting

## % AI/ML MODELS IN USE BY OPERATION



## TOP USES OF AI/ML MODELS IMPLEMENTED IN PRODUCTION

### Marketing

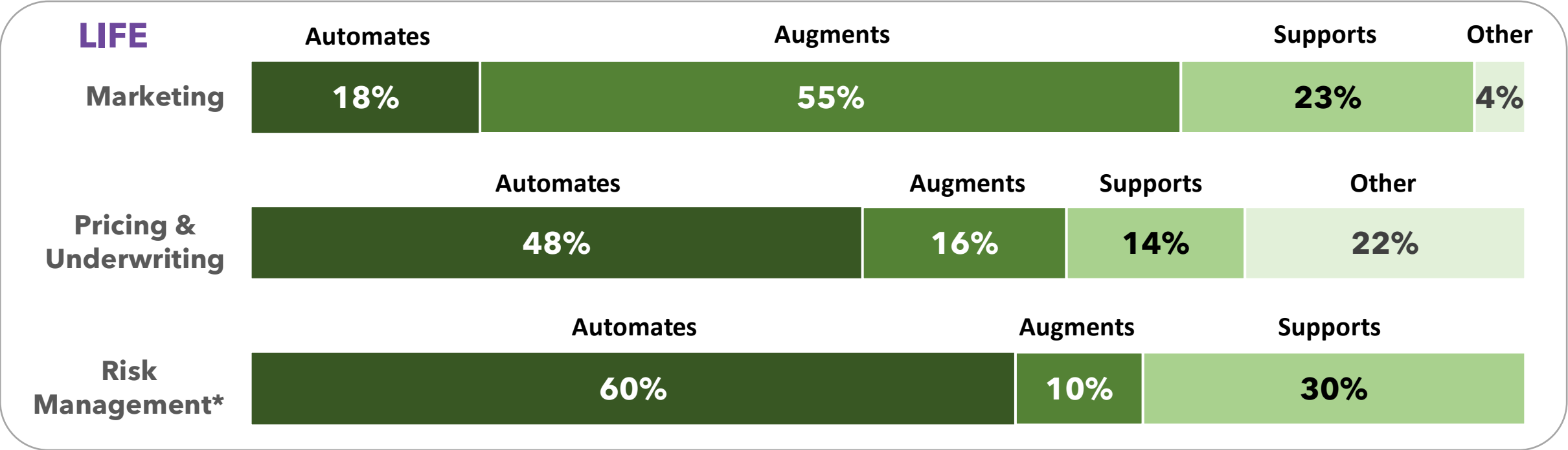
- Target Online Advertising
- Provision of Offers to Existing Customers
- Identification of Recipients of Mail or Phone Advertising
- Identification of Potential Customer Groups
- Other Marketing Functions

### Pricing & Underwriting

- Reduced Time to Issue
- Automated & Non-Automated Approval/Denial Decisions
- Underwriting Risk Class

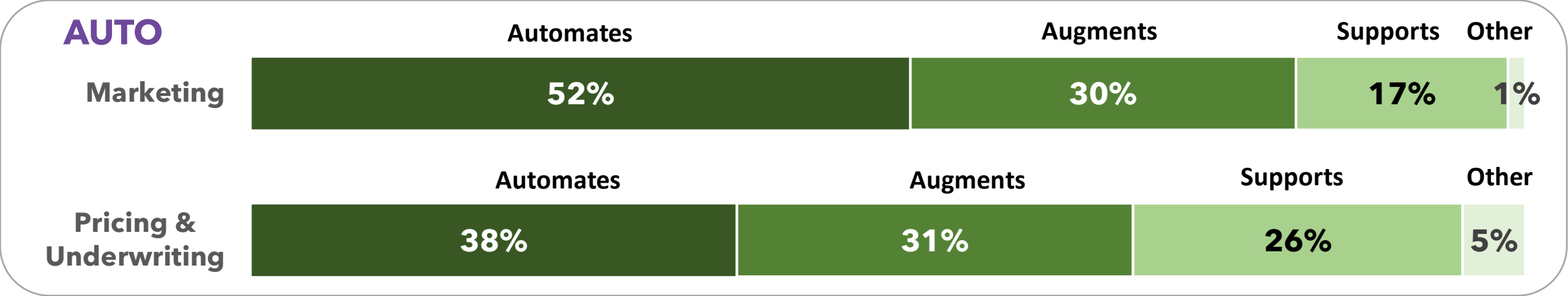
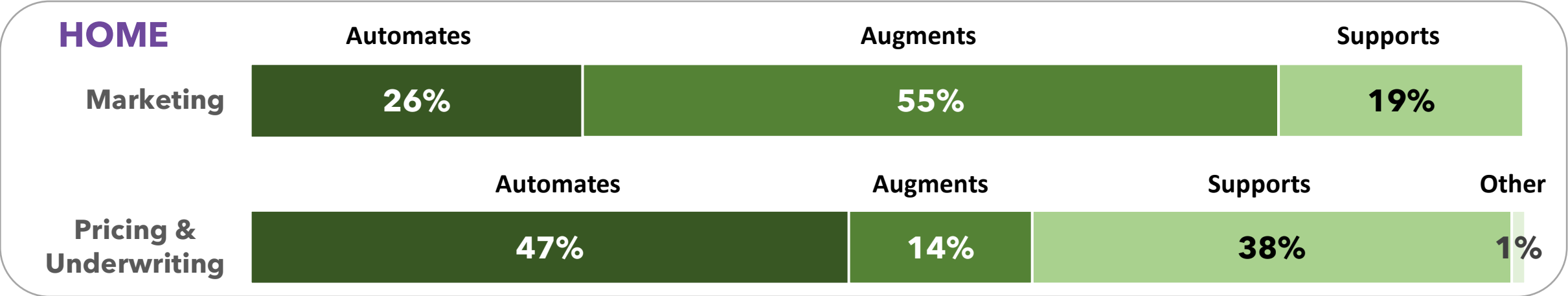
*\* Note: Only 7 companies reported using AI/ML models for Risk Management*

# Majority of AI/ML Models for Marketing Augment Decision-Making, While Nearly Half of Pricing & U/W AI/ML Models Automate Decision-Making



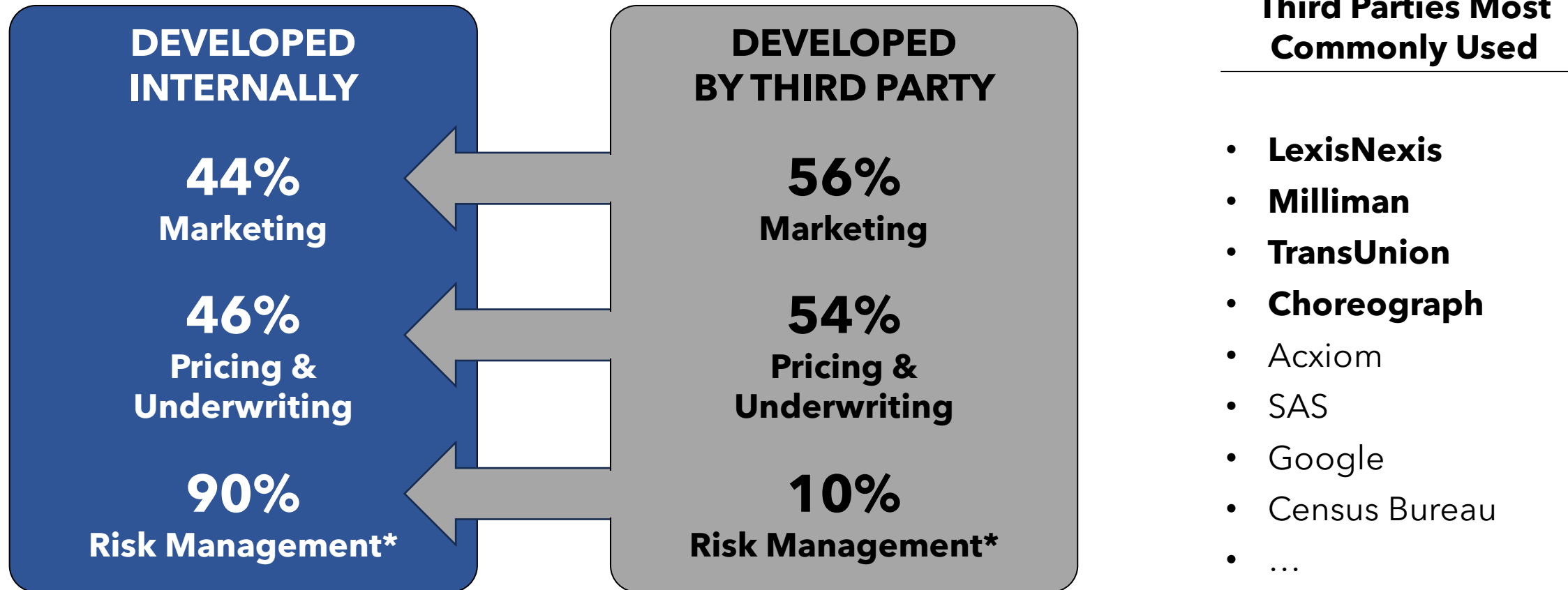
\* Note: Only 7 companies reported using AI/ML models for Risk Management

**The Level of Decision-Making is Roughly Similar Between Life and Home Insurers. For Auto, More Insurer Marketing Models are Automated While Pricing & U/W Models are More Evenly Split Between Automating and Augmenting Decisions.**





# Third Parties Develop Over Half AI/ML Models Used by Life Insurers



*\* Note: Only 7 companies reported using AI/ML models for Risk Management*

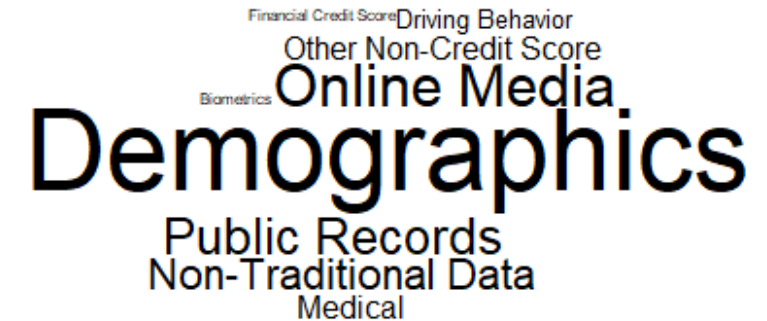
# Demographics Data Helps Identify Policyholders; Medical Data Helps Assess Risk

## Survey requested usage of these data elements:

- Credit-Based Insurance Scores
- Financial Credit Scores
- Other Types of Non-Credit Scores
- Public Records
- Demographics
- Telematics Type Data
- Driving Behavior
- Biometrics
- Medical
- Online Media
- Other Non-Traditional

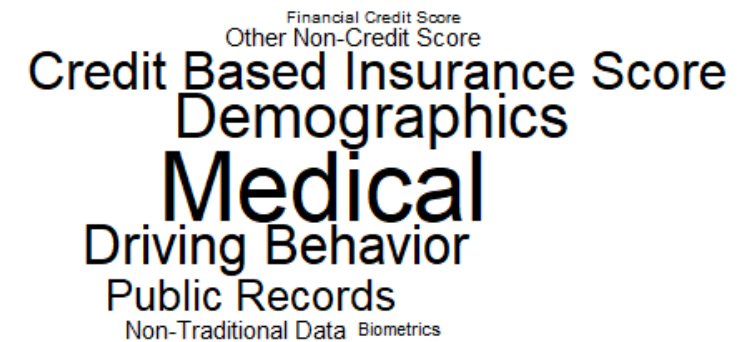
## MARKETING

- Demographics most commonly used
- Online Media and Public Records also commonly used



## PRICING & UNDERWRITING

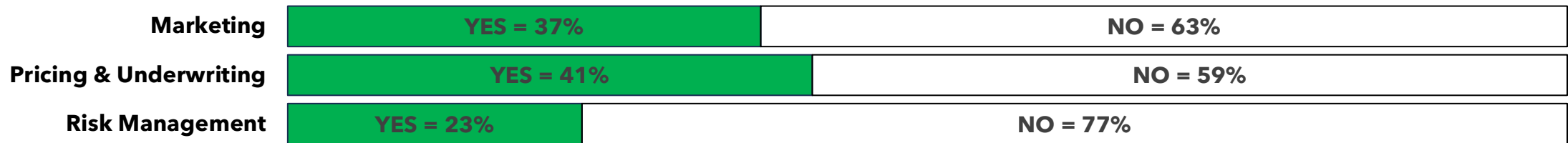
- Medical Data most commonly used
- Demographics, Driving Behavior, and Credit-Based Ins Score also highly used



# Life Insurer Customer Data Collection, Disclosure and Correction

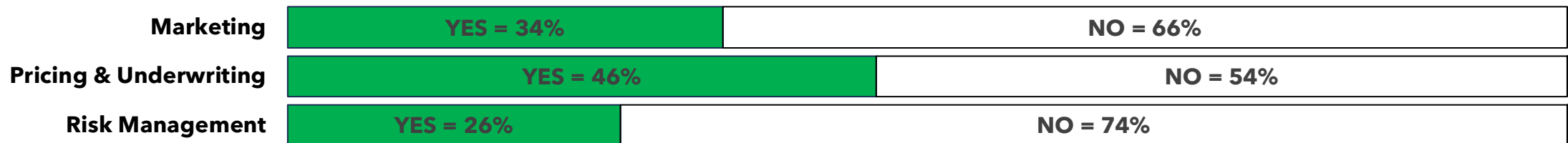
## 1. Non-Fair Credit Reporting Act (Non-FCRA) Data Disclosures to Consumers

Insurers were asked about their processes for informing consumers about data collection—when and how their data is used, other than what is required by law under the FCRA:



## 2. Consumer Opportunity to Challenge or Correct Data

Insurers were asked whether consumers have an opportunity to correct their data that is not included under the FCRA. Insurers responded similarly:



# Majority of Life Insurer AI/ML Governance Programs Include Components that Align with NAIC AI Principles

**Nearly 60% of Insurers responded about the components included in their Governance Program.**

**Percentage of responding insurers stating the following are included in their Governance Programs:**

<b>53%</b>	Compliance with Laws and Regulations
<b>53%</b>	Accountability for Intended / Unintended Impacts
<b>60%</b>	Resources / Knowledge to Ensure Compliance
<b>62%</b>	Transparency / Notice to Consumers About Their Data and Methods for Correction
<b>57%</b>	Assurance of Safe, Secure and Robust Systems Incl Decision Traceability

<b>47%</b>	Follow Guidance from Other Standards
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- Actuarial Standards Board
- American Academy of Actuaries
- Colorado Division of Insurance
- DAMA International
- Deloitte
- Federal and State Agencies
- Federal Reserve Board
- Internet Engineering Task Force (IETF)
- LexisNexis
- Microsoft
- NAIC Principles of AI
- National Institute of Standards & Technology (NIST)
- OpenID
- Society of Actuaries
- The White House
- TransUnion

## Next Steps

Insights from Survey responses are used to supplement regulators' knowledge of Life Insurer **usage of AI/ML, level of decision-making, governance, data elements,** and **reliance on third parties** to assess risk to consumers and evaluate whether any changes should be made to regulatory frameworks.

Potential Next Steps Include:

- Explore Insurer AI/ML model usage and the level of decision-making
- Evaluate the regulatory framework about the use of third-party models
- Determine whether additional white papers on best practices would be useful on subjects in the AI/ML space
- Explore the use of AI/ML at the product level
- Develop questions for company discussions in closed regulator-only sessions